



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/496,960	02/03/2000	Michael R. Arneson	1689.0010002	6909

7590 07/01/2003

Sterne Kessler Goldstein & Fox PLLC
1100 New York Avenue NW
Suite 600
Washington, DC 20005-3934

EXAMINER

MYHRE, JAMES W

ART UNIT

PAPER NUMBER

3622

DATE MAILED: 07/01/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/496,960

Applicant(s)
Arneson et al

Examiner
James W. Myhre

Art Unit
3622

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on May 7, 2003
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 11 6) ☐ Other:

Art Unit: 3622

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on May 7, 2003 has been entered.

Response to Amendment

2. The amendment filed on May 7, 2003 has been considered but is ineffective to overcome the Guthrie et al (5,289,372), Kaplan et al (3,689,885), and Walter et al (5,856,788) references.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-14, 16, 17, 19-32, 34, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guthrie et al (5,289,372).

Art Unit: 3622

Claims 1 and 19: Guthrie discloses a system and method for conducting an inventory of items with attached tags, comprising:

- a. Selecting a remote sensor (collector) to poll a plurality of tags (sensors) within the collector's physical area of control;
- b. Receiving and storing information from the polled tags;
- c. Repeating the polling by other collectors in the system; and
- d. Processing the received polling information to determine the inventory status of the system (col 3, line 50 - col 4, line 55).

Guthrie also discloses that using wireless (RF) transmissions for communicating between the tags and the collector such as in Caswell (4,636,950) is "not suitable for Federal Government facilities"...and where secrecy considerations are required" (col 3, lines 15-44). While Guthrie uses wired connections to link the tags and the collector in his invention, his disclosure that wireless transmission means are also used in other systems to communicate between the tags and collector teaches and would have rendered it obvious to one having ordinary skill in the art at the time the invention was made that wireless connections could also be used if, as Guthrie implies, secrecy requirements were not a concern. One would have been motivated to use wireless transmissions to poll the tags in Guthrie in order to enable the invention to be used for inventorying non-electric or mobile items such as items in a storeroom.

Art Unit: 3622

Claims 2 and 20: Guthrie discloses a system and method for conducting an inventory of items as in Claims 1 and 19 above, and further discloses the polling information comprises at least one tag ID (col 3, line 50 - col 4, line 55).

Claims 3 and 21: Guthrie discloses a system and method for conducting an inventory of items as in Claims 2 and 20 above, and further discloses repeating the steps (col 3, line 50 - col 4, line 55 and col 10, lines 52-57).

Claims 4 and 22: Guthrie discloses a system and method for conducting an inventory of items as in Claims 3 and 21 above, and further discloses storing information of tags which failed to respond (missing from inventory)(col 13, lines 56-68 and col 21, line 62 - col 22, line 17).

Claims 5 and 23: Guthrie discloses a system and method for conducting an inventory of items as in Claims 4 and 22 above, and further discloses initiating a security measure upon detection that a collector or tag does not respond (is missing)(col 13, lines 56-68 and col 21, line 62 - col 22, line 17). Guthrie discloses sending maintenance personnel to fix a non-responsive collector, but does not explicitly disclose sending the same maintenance personnel if a tag is non-responsive. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to also send the maintenance personnel to fix non-functioning tags also. One would have been motivated to do this in view of Guthrie's disclosure that information about such non-responsive tags is being stored in the database.

Art Unit: 3622

Claims 6, 7, 24, and 25: Guthrie discloses a system and method for conducting an inventory of items as in Claims 5 and 23 above, but does not explicitly disclose that the security action taken when a “missing” item is detected consists of turning on a surveillance camera or activating a silent alarm. Guthrie discloses that a maintenance person is dispatched to the “nonresponsive” collector (col 13, lines 56-68) or information about a non-responsive tag is entered in the Disconnect Table (col 14, lines 55-68 and col 21, line 62 - col 22, line 17). While this may be an appropriate response when applied to Guthrie’s example system that is tracking the equipment in a widely distributed computer system, it would have been obvious to one having ordinary skill in the art at the time the invention was made to turn on a surveillance camera, activate an alarm (whether silent or not), or take other security measures such as locking all egresses into and out of the area concerned. These are all well known types of measures taken by the security industry when a security abnormality is detected. For example, Automatic Teller Machines (ATMs) have been in widespread use throughout the world for many years. These financial transaction machines use surveillance cameras to record an image of the person conducting the financial transaction on the ATM. However, in order to reduce the amount of memory needed to store the images the camera is not kept running constantly, but is only activated when the system detects the presence of a user. Many of the ATMs will also automatically transmit an alarm signal to the local security agency or police department when an inappropriate transaction situation is detected (such as coercion of a user by another). The type of security action taken would depend upon the type of items being monitored. While in most

Art Unit: 3622

computer systems Guthrie's sending of maintenance personnel may be appropriate such as when a malfunction of the ATM is detected, if the computer system was a highly sensitive classified system used by an intelligence organization or the military, it would be more appropriate to turn on a surveillance camera or to activate a silent alarm instead of sending maintenance (or security) personnel in order to verify the reason for the non-responsiveness of the item and to determine the appropriate response (i.e. sending maintenance personnel if the item is seen to be present or sending security personnel if the item is seen to be missing from its usual place or unauthorized personnel are present).

Claims 8 and 26: Guthrie discloses a system and method for conducting an inventory of items as in Claims 2 and 20 above, and further discloses correlating the information received from each tag to maintain data regarding the location of each tag (col 3, line 50 - col 4, line 55).

Claims 9 and 27: Guthrie discloses a system and method for conducting an inventory of items as in Claims 1 and 19 above, and further discloses that the information is from a tag within the collector's coverage pattern (col 3, line 50 - col 4, line 55).

Claims 10-14 and 28-32: Guthrie discloses a system and method for conducting an inventory of items as in Claims 9 and 27 above, but does not explicitly disclose that the sensor information indicates tag movement, tag vibration, tag temperature, or a security breach comprising one of these parameters. Official Notice is taken that it is old and well known in the security arts to use motion, vibration, and/or temperature sensors to detect theft, abuse, or failure of an item. These types of sensors are used in many areas, such as car alarms (motion and

Art Unit: 3622

vibration); factories, buildings heating/cooling systems, nuclear power plants (temperature); etc. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to monitor movement, vibration, and/or temperature fluctuation of the tagged item. One would have been motivated to monitor these types of elements in order to better determine when an exception status has occurred so the appropriate response could be initiated.

Claims 16 and 34: Guthrie discloses a system and method for conducting an inventory of items as in Claims 1 and 19 above, and further substantially discloses the claimed steps for polling (interrogating) the tags (col 3, line 50 - col 4, line 55). The wake-up signal, timer, and counter are all well known in the sensor art and discussed by Guthrie (col 10, lines 3-19 and col 13, lines 3-55) as well as by other cited art. Therefore, the claimed polling (interrogation) steps would have been obvious to one having ordinary skill in the art at the time the invention was made. One would have been motivated to poll the tagged items in this manner in view of Guthrie's disclosure of such components within his system.

Claims 17 and 35: Guthrie discloses a system and method for conducting an inventory of items as in Claims 1 and 19 above, but does not explicitly disclose that the tag reader is a PCMCIA card. The Examiner notes that a PCMCIA card is the common standard used on PC card-based peripherals on portable (and personal) computers throughout the industry and is also the standard name for PC cards which were first introduced in June 1990. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use

Art Unit: 3622

a PCMCIA card to read the tags. One would have been motivated to use a PCMCIA card in view of its standard usage for such applications throughout the industry.

5. Claims 15, 18, 33, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guthrie et al (5,289,372) in view of Kaplan et al (3,689,885).

Claims 15, 18, 33, and 36: Guthrie discloses a system and method for conducting an inventory of items as in Claims 1 and 19 above, but does not explicitly disclose that the tags are connected to the collector through an electrical power distribution system nor attached to an electrical light fixture. Kaplan discloses a similar system and method for polling tags in which the nodes are connected through an electrical power distribution system (Figure 5A, item 172 and col 9, lines 39-62). While Kaplan does not explicitly disclose connecting to the electrical power distribution system through an electrical lighting fixture, Official Notice is taken that it is old and well known in the electrical arts that items can be connected to an electrical system by direct wiring, outlet plugs, or through light fixtures (the Examiner has used a motion sensor integrated into a light fixture to activate outdoor lighting on his house for years). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to connect the collectors, tags, and other system components through an electrical power distribution system and to use one or more of the usual electrical connection modes to include an electrical lighting fixture. One would have been motivated to connect to such a system in such a manner in order to provide a constant supply of power without needing to replace batteries constantly.

Art Unit: 3622

6. Claims 37 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guthrie et al (5,289,372) in view of Walter (5,856,788).

Claims 37 and 38: Guthrie discloses a method and system for conducting an inventory of items as in Claims 1 and 19 above, but does not explicitly disclose the time slot contention is resolved by the tag sending a first plurality of bits of its ID number during a first read and a second plurality of bits during a second read. Walter discloses a similar method and system for wirelessly interrogating identification tags in which each tag transmits a first bit of its identification number during a first read and then subsequent bits during subsequent reads if there was time slot contention during the previous read (col 5, lines 1-50). While it is not explicitly disclosed that a plurality of bits are read each time, it would have been obvious to one having ordinary skill in the art at the time the invention was made that in order to use different parts of the identification number for multiple reads, the identification number could be divided into subsets containing any number of bits from only one bit as Walter discloses to any number less than the total number of bits. One would have been motivated to use a plurality of bits in order to decrease the time it takes to identify a plurality of items when the identification number consists of a large number of bits. For example, if the identification numbers of 100 items each contains 88 bits, it would take approximately 8,800 reads to identify all 100 items reading one bit at a time. If 4 bits (one byte) at a time were read, it would only take approximately 1,100 reads to identify all 100 items, thus realizing an 8-fold decrease in processing time. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use such a

Art Unit: 3622

bitwise interrogation (using a plurality of bits per read) of the tags in Guthrie to resolve time slot contention. One would have been motivated to use bitwise interrogation in view of Guthrie's disclosure of reading in eight bits of the tag ID at a time until all 26 bits have been received (col 10, lines 5-25).

Response to Arguments

7. Applicant's arguments filed May 7, 2003 have been fully considered but they are not persuasive.

A. Applicant argues in reference to Claims 1 and 19 that Guthrie does not disclose "conducting a *wireless* inventory of items" (page 3). The Examiner notes that as discussed in the rejection above, while Guthrie uses a wired system as an exemplary embodiment of his invention, he also discloses that other systems use wireless RF transmissions when security is not an issue. Thus, the reference explicitly teaches that an inventory monitoring system may be **either** wired or wireless. The Examiner also notes in response to the "inventory" argument that Guthrie explicitly discloses that the tag readings are used to determine if any of the items have been moved or are no longer detectable by the collector, i.e. missing. Once the collector has completed its polling of the sensors within its area of responsibility it responds to the central computer with a report of "good health" or with the detected changes (col 10, lines 15-40). Thus, by determining which items have been moved or are no longer detectable, Guthrie is "inventorying" the items.

Art Unit: 3622

B. The Applicant argues that Guthrie does not disclose “a coverage pattern that defines a physical area containing a plurality of items with their associated tags” (page 4). The Examiner notes that Guthrie has a plurality of collectors, each of which has a certain number of assigned tags for which it is responsible to poll (inventory). Guthrie uses an example of where “Collectors 19 are located in each room of a multi-room building, for example, and every sensor 18 in a room connects to this collector 19” (col 8, lines 6-8). In other words, each collector only polls the sensor located within its room - - its “coverage pattern”. Guthrie further discloses that each building (of a plurality of buildings) has at least one concentrator which receives the data from each of the collectors within its building and forwards the data to the central computer (col 8, lines 44-64). Hence, each concentrator also has its own “coverage pattern”. The Examiner also notes that in wireless systems it is inherent that the collector would have a finite coverage area based on the power of its (and the tags’) transceiver. Therefore, whether wired (which strictly limits its coverage pattern) or wireless (in which its coverage pattern is limited by the power of the transceivers), Guthrie’s collectors would all have assigned coverage patterns.

C. The Applicant argues in reference to Claims 6, 7, 24, and 25 that there is no reason for Guthrie to turn on a surveillance camera or to activate an alarm when the absence of an item is detected since Guthrie only polls the equipment at least every 24 hours (page 5). As further explained in the rejection above, the type of “security measure” taken when an item is detected as being missing would depend entirely on what items were being inventoried and other situational factors. For example, if either the Applicant’s or Guthrie’s system were being used to keep an

Art Unit: 3622

inventory of parts in a warehouse of a factory in which the manufacturing process consumed a number of the parts each day, there would be no need to activate a camera or to set off an alarm every time an authorized employee removed one of the parts during the normal course of the day's work. However, if the same item was detected to be missing at 8:00 p.m. on Saturday, when the factory was closed, it would be obvious to activate a stronger security measure, such as dispatching security personnel, turning on a surveillance camera, activating an alarm, sealing off the area, etc. Guthrie's example of reacting to a detected abnormality in the polling data by sending maintenance personnel teaches one type of reaction to one type of situation. However, sending maintenance personnel when Guthrie detects that an item has been moved or is missing would be an inappropriate response since there would be no malfunction to repair. It would be much more logical to send security personnel if the move or removal was determined to be unauthorized. The argument that Guthrie only conducts the inventory polling "at least every 24 hours" is misplaced. Guthrie discloses that the concentrators are polled at least once daily in order to ensure that they are still in working order. Guthrie does not disclose any set time period for the polling of the sensors themselves, but does disclose that they are read "at selected intervals, or continuously" (col 3, lines 60-63). Again, the time period between polling the items (sensors) would be entirely determined by the type and sensitivity of the items. Long term, not-easily-portable items may only need to be inventoried daily, or weekly, or even annually. Other highly-portable and expensive items, such as laptop computers within an office, may need to be inventoried more often, such as several times a day. Extremely sensitive items, such as nuclear

Art Unit: 3622

material in a storage area or drugs in a pharmacy, may need to be almost constantly inventoried. Thus, the duration of time between the inventory polls in Guthrie could be set to any desired period to include continuously.

D. The Applicant argues in reference to Claims 16 and 34 that the Examiner has not established *prima facie* obviousness because “all the words in the claims must be considered” (page 5). The Examiner notes that while the Applicant is free to express the claim in as many words as he wishes, it is the steps of the claims which are being examined, not the terminology used by the Applicant. In these claims the tag reader transmits a wake-up signal and a timer signal; each tag receives the timer signal and responds with its tag ID; the reader receives the responses from the tags, increments a data store (first reader count) when there is a time slot contention, and transmits a second timer signal along with the first reader count; each responding tag receives the second signal and transmits a second number back to the reader. In Guthrie the collector (reader) transmits a wake-up signal (initial GETS ID call) along with a software timer signal; each tag receives the signals and responds with the first eight bits of data from its tag ID; the collector receives and stores this data (first reader count) then requests the next bit(s) from each tag and repeats the process until all 26 bits of each sensor ID number is read. Thus, Guthrie not only discloses all the components used in the present Claims 16 and 34, but also discloses the transmitting, receipt, storage, and comparison steps of the claimed method.

Art Unit: 3622

E. Finally, the Applicant argues in reference to Claims 37 and 38 that Walter does not disclose reading a plurality of bits during a first read and a difference plurality of bits during a second read (page 6). This argument has been addressed in the expanded rejection of these claims above. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, both reference teach ways of polling electronic tags attached to items. It would have been obvious to one attempting to set up a system for conducting such polls to discover all such type of polling systems and to combine their various features and methods to achieve the desired result. Both Guthrie and Walter disclose polling the tags using the bits of their ID numbers; thus, it would have been very apparent to one having ordinary skill in the art at the time the invention was made to combine the particular "bitwise" polling procedures to either of the references.

Conclusion

8. This is a continuation of applicant's earlier Application No. 09/496,960. All claims are drawn to the same invention claimed in the earlier application and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the earlier

Art Unit: 3622

application. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action in this case. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no, however, event will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Exr. James W. Myhre whose telephone number is (703) 308-7843. The examiner can normally be reached on weekdays from 6:30 a.m. to 3:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eric Stamber, can be reached on (703) 305-8469. The fax phone number for Formal or Official faxes to Technology Center 3600 is (703) 872-9326. Draft or Informal faxes may be submitted to (703) 872-9327 or directly to the examiner at (703) 746-5544.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group Receptionist whose telephone number is (703) 308-1113.

Application/Control Number: 09/460,960

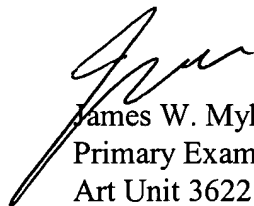
Page 16

Art Unit: 3622



JWM

June 27, 2003



James W. Myhre

Primary Examiner

Art Unit 3622